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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,467	04/09/2001	Hiroshi Shinoki	JG-SIK-5063/500676.20003	8683

7590 11/04/2004

REED SMITH LLP  
375 Park Avenue  
New York, NY 10152

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EXAMINER
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FREDMAN, JEFFREY NORMAN

ART UNIT	PAPER NUMBER
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1637

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/829,467

Applicant(s)

SHINOKI ET AL.

Examiner

Jeffrey Fredman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 23 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,7,11,13,15,17,19,27,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,7,11,13,15,17,19,27,32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

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## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 23, 2004 has been entered.

***Status***

2. The previous rejection of these claims (by the previous examiner) relied upon Brush as a primary reference in a 103 rejection. Upon reconsideration and review of the Brush reference, it is clear that Brush teaches every element of claim 1. Consequently, Brush is a 102 reference and is so applied. When Brush was withdrawn as a 102 rejection previously, in response to the amendment filed May 27, 2003, it is clear that the previous examiner did not realize that the lower alcohol group in the compound shown in figure 3 of Brush would function as a water soluble group. It is also clear that it was not recognized that the  $(CH_2)_6NH$  group of Brush is an aminoallyl group. Therefore, for these reasons and the explanation given below, the new 102 rejection over Brush is imposed.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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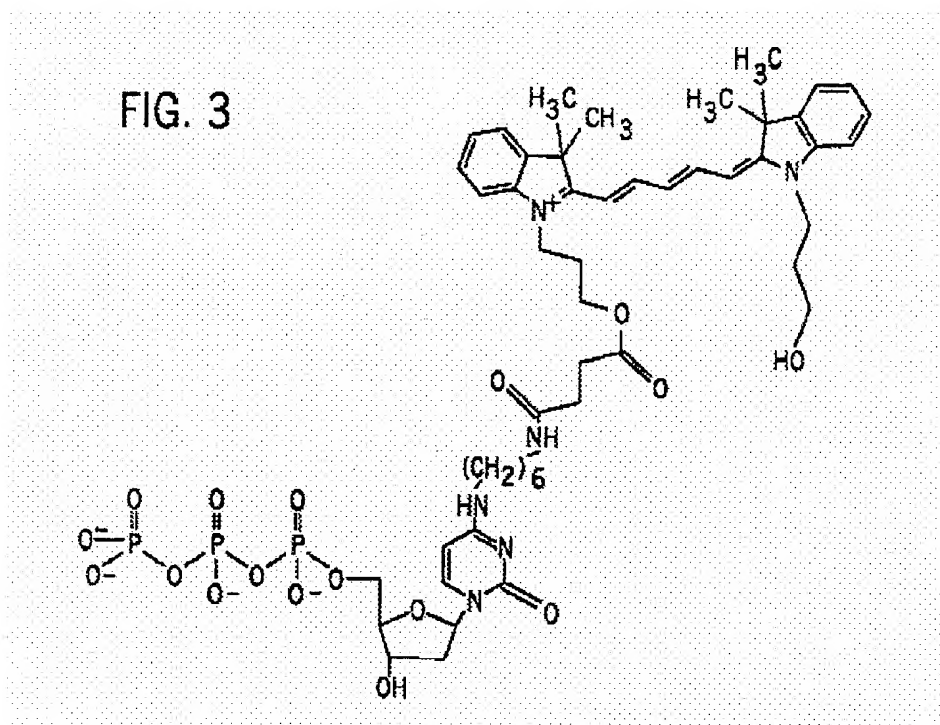
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 7, 11, 13, 15, 17, 19, 27, 32 and 33 are rejected under 35

U.S.C. 102(b) as being anticipated by Brush et al (U.S. Patent 5,986,086).

Brush teaches a nucleotide, in figure 3, as shown below:



The structure of figure 3 shows the element A, a nucleotide, linked by an element B, a divalent linking group to an element C, a cyanine dye which does not have either a sulfonic acid or a phosphoric acid group in the dye, where the dye does include a lower alcohol group, specifically a propanol group.

With regard to claim 3, the dye of figure 3 is a cyanine dye.

With regard to claims 7 and 32, the cyanine dye of figure 3 has the structure shown for the cyanine dye in the top element of the claim, where X and Y are  $C(CH_3)_2$ ,

where m is 2, where R1 is an alkyl group with a reactive group that is covalently bound to B, where R2 is lower alcohol group as specified by claim 1, and where R3, R4, R8 and R9 are hydrogen. (As a side point, R2 may alternatively be defined as a CH<sub>2</sub> alkyl group linked to methanol for purposes of meeting these claims).

With regard to claim 11, R1 of figure 3 is an alkyl group linked to a carboxyl group.

With regard to claim 13, figure 3 shows A as a nucleotide.

With regard to claim 15, figure 3 shows A as a cytosine base.

With regard to claim 17, figure 3 shows a linking group which comprises combinations of NH, CH<sub>2</sub>, CO and O.

With regard to claim 19, figure 3, shows an aminoallyl group linked to the nucleotide.

With regard to claim 27, figure 3 shows the nucleotide according to claim 1.

With regard to claim 33, figure 3 shows an ester linkage.

### ***Response to Arguments***

5. Applicant's arguments filed September 23, 2004 have been fully considered but they are not persuasive.

Applicant argues that Brush does not teach a compound with a sulfonamide or lower alcohol group. Applicant is correct that Brush does not teach a sulfonamide. However, the propanol group that Brush shows attached to the cyanine dye is certainly a lower alcohol group. Further, this examiner does not concede that Brush does not

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teach an aminoallyl group since Brush teaches the  $(CH_2)_6NH$  which is an aminoallyl group.


Applicant's obviousness arguments are moot in view of the new grounds of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Fredman whose telephone number is (571)272-0742. The examiner can normally be reached on 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571)272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeffrey Fredman  
Primary Examiner  
Art Unit 1637  
